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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,166	10/23/2003	Robyn Lee Focazio	AUS920030688US1	1938
45371 7590 07/16/2008 IBM CORPORATION (AUS) c/o Rudolf O Siegesmund Gordon & Rees, LLP 2100 Ross Avenue Suite 2800 DALLAS, TX 75201				
EXAMINER				
LIN, SHEW FEN				
ART UNIT		PAPER NUMBER		
2166				
MAIL DATE		DELIVERY MODE		
07/16/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/692,166

Applicant(s)

FOCAZIO ET AL.

Examiner

SHEW-FEN LIN

Art Unit

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

- a. This action is taken to response to Request for Continued Examination filed on 12/4/2007.
- b. Claims 1-39 are pending in this Office Action. Claims 1, 10, 17, 25 and 32 are independent claims.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 4, 2007 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims

was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US Patent 5,418,950, hereinafter Li) in view of Koo et al. (US Publish 2003/0167258, hereinafter Koo).

As to claim 1, Li discloses a computer implemented process for creating a query for a database, comprising(column 3, lines 5-36):

using a computer connected to a memory and to a database (Fig. 1a, column 4, lines 56-67);

a computer program stored in the memory, the memory, so configured by the computer program (Fig. 1a), causes the computer to perform steps comprising:'

receiving a user entry of a plurality of fields, a filter, and a sort criteria (Figure 2b, column 3, lines 14-24);

identifying a set of necessary tables in the database that are required to respond to the user entry (Figure 2b, item 240, column 5, lines 45-60, column 9, lines 17-55, column 10, lines 40-51); and

automatically generating a query having a clause linked to the set of necessary tables in the database (From Clause with tables determined based on chosen columns, Figures 3a, 8, column 2, lines 41-51, column 3, lines 25-35, column 9, lines 52-55);

wherein the query accesses only the set of necessary tables in the database (tables specified in From Clause, column 9, lines 52-55, column 12, lines 63-65, column 13, lines 14-23); and

Li does not explicitly disclose whereby unnecessary table joins are prevented.

Koo discloses whereby unnecessary table joins are prevented (paragraph [0002], [0030], [0044], [0049]-[0057], redundant join elimination and sub-query elimination using subsumption).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify Li's disclosure to eliminate a redundant join as taught by Koo for the purpose of preventing execution of unnecessary joins (abstract, Koo). The skilled artisan would have been motivated to improve the invention of Li per the above by generating alternate plans and choosing a best plan based on estimated execution costs (paragraph [0005], Koo).

As to claim 2, Li discloses determining that a SQL template has a FROM clause placeholder (Figure 2b, item 240) and determining that a FROM clause table has been previously specified in the SQL template (Figure 2b, item 240); responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, generating a FROM clause for the table (Figure 8, column 9, lines 66-67, column 11, lines 51-67, column 12, lines 1-2); determining that the SQL

template has a JOIN clause placeholder (Figure 2b, item 250, column 2, lines 52-62) and determining that the FROM clause has been added (Figures 2b, 8); and responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has been added, generating a JOIN clause (Figure 8).

As to claim 3, Li discloses responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, adding the FROM clause to a FROM clause string (Figure 8, column 9, lines 26-27); and responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, adding the JOIN clause to a JOIN clause string (Figure 8).

As to claim 4, Li discloses generating a (join) WHERE clause (“WHERE clause”, Figure 3a, item 341); adding the (join) WHERE clause to a (join) WHERE clause string (Figure 8); adding an alias to an added aliases list (add alias, Figures 5, 29, column 13, lines 36-41); and adding an optional where clause alias to an optional where clause aliases list (option aliases, Figure 29).

As to claim 5, Li discloses determining that a plurality of parameters are on the added aliases list (Figure 13b, column 21, lines 49-57); and responsive to the determination that the parameters are not on the added aliases list, performing the steps in claim 2 (Figure 13b, column 21, lines 35-57).

As to claim 6, Li discloses generating a SELECT clause (Figure 2b, item 230, Figure 3a); generating a (filter) WHERE clause (Figure 2b, item 250, Figure 3a); and generating an ORDER BY clause (Figures 2b, 8).

As to claim 7, Li discloses responsive to the determination that all of the parameters have been analyzed, determining that an optional where clause alias is on the added aliases list (Figure 13c, item 1378); responsive to the determination that the optional where clause alias is on the added aliases list, generating a (join) WHERE clause for the optional where clause alias (Figure 13c, item 1379, column 21, lines 63-66); and responsive to the determination that the optional where clause alias is on the added aliases list, adding the (join) WHERE clause to a (join) WHERE clause string (Figure 13c, item 1388).

As to claim 8, Li discloses replacing the FROM clause placeholder in the SQL template with a FROM clause string (Figure 8, column 18, lines 7-8); replacing the JOIN clause placeholder in the SQL template with a JOIN clause string (Figure 8); and adding a (join) WHERE clause string to the (filter) WHERE clauses in the SQL template (Figure 8, column 18, lines 9-10).

As to claim 9, Li discloses accepting a user submission of a field and a filter (fields, condition, column 3, lines 14-24); sending the query to the database (execute action, Figure 14,

item 1414, column 22, lines 28-33); and obtaining an output from the database (return query report, Figure 14, item 1416, column 22, lines 28-33).

As to claim 10, Li discloses a computer implemented process for creating a query for a database located in a memory (column 3, lines 5-36), wherein the computer implemented process, responsive to a user entry of a plurality of parameters (Figure 2b, column 3, lines 14-24 automatically identify a set of necessary tables in the database (Figure 2b, item 240, column 10, lines 40-51) and automatically generates a query having a clause linked to the set of necessary tables (From Clause with tables determined based on chosen columns, Figures 3a, 8, column 2, lines 41-51, column 3, lines 25-35, column 9, lines 52-55) that are required to respond to the user entry (tables specified in From Clause, column 9, lines 52-55, column 12, lines 63-65, column 13, lines 14-23), the computer implemented process comprising:

determining that the plurality of parameters are on the added aliases list (Figure 13b, column 21, lines 49-57);

responsive to the determination that the parameters are not on the added aliases list, running a clause generation program (Figure 13b, 13c, column 21, lines 35-57);

determining that all of the parameters have been analyzed;

responsive to the determination that all of the parameters have been analyzed , determining that an optional where clause alias is on the added aliases list (Figure 13c, item 1378);

responsive to the determination that the optional where clause alias is on the added aliases list, generating the (join) WHERE clause for the optional where clause alias (Figure 13c, item 1379, column 21, lines 63-66); and

responsive to the determination that the optional where clause alias is on the added aliases list, adding the (join) WHERE clause to the (join) WHERE clause string (Figure 13c, item 1388);

wherein the query only accesses the set of necessary tables in the database (tables specified in From Clause, column 9, lines 52-55, column 12, lines 63-65, column 13, lines 14-23).

Li does not explicitly disclose preventing unnecessary joins.

Koo discloses preventing unnecessary joins (paragraph [0002], [0030], [0044], [0049]-[0057], redundant join elimination and sub-query elimination using subsumption).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify Li's disclosure to eliminate a redundant join as taught by Koo for the purpose of preventing execution of unnecessary joins (abstract, Koo). The skilled artisan would have been motivated to improve the invention of Li per the above by generating alternate plans and choosing a best plan based on estimated execution costs (paragraph [0005], Koo).

As to claim 11, Li discloses wherein the clause generation program comprises: determining that a SQL template has a FROM clause placeholder (Figure 2b, item 240) and determining that a FROM clause table has been previously specified in the SQL template (Figure 2b, item 240); responsive to the determination that the SQL template has the FROM clause

placeholder and that the FROM clause table has not been previously specified in the SQL template, generating a FROM clause for the table (Figure 8, column 9, lines 66-67, column 11, lines 51-67, column 12, lines 1-2); determining that the SQL template has a JOIN clause placeholder (Figure 2b, item 250, column 2, lines 52-62) and determining that the FROM clause has been added (Figures 2b, 8); and responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has been added, generating a JOIN clause (Figure 8).

As to claim 12, Li discloses wherein the clause generation program further comprises: responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, adding the FROM clause to a FROM clause string (Figure 8, column 9, lines 26-27); and responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, adding the JOIN clause to a JOIN clause string (Figure 8).

As to claim 13, Li discloses wherein the clause generation program further comprises: generating a (join) WHERE clause ("WHERE clause", Figure 3a, item 341); adding the (join) WHERE clause to a (join) WHERE clause string (Figure 8); adding an alias to an added aliases list (add alias, Figures 5, 29, column 13, lines 36-41); and adding an optional where clause alias to an optional where clause aliases list (option aliases, Figure 29).

As to claim 14, Li discloses generating a SELECT clause (Figure 2b, item 230, Figure 3a); generating a (filter) WHERE clause (Figure 2b, item 250, Figure 3a); and generating an ORDER BY clause (Figures 2b, 8).

As to claim 15, Li discloses replacing the FROM clause placeholder in the SQL template with a FROM clause string (Figure 8, column 18, lines 7-8); replacing the JOIN clause placeholder in the SQL template with a JOIN clause string (Figure 8); and adding the (join) WHERE clause string to a (filter) WHERE clauses in the SQL template (Figure 8, column 18, lines 9-10).

As to claim 16, LI discloses accepting a user submission of a field and a filter (fields, condition, column 3, lines 14-24); sending the query to the database (execute action, Figure 14, item 1414, column 22, lines 28-33); and obtaining an output from the database (return query report, Figure 14, item 1416, column 22, lines 28-33).

As to claim 17, is directed to a computer program product carrying instructions for performing the process of claim 2 and is rejected along the same rationale.

As to claim 18, is directed to a computer program product carrying instructions for performing the process of claim 3 and is rejected along the same rationale.

As to claim 19, is directed to a computer program product carrying instructions for performing the process of claim 4 and is rejected along the same rationale.

As to claim 20, is directed to a computer program product carrying instructions for performing the process of claim 5 and is rejected along the same rationale.

As to claim 21, is directed to a computer program product carrying instructions for performing the process of claim 6 and is rejected along the same rationale.

As to claim 22, is directed to a computer program product carrying instructions for performing the process of claim 7 and is rejected along the same rationale.

As to claim 23, is directed to a computer program product carrying instructions for performing the process of claim 8 and is rejected along the same rationale.

As to claim 24, is directed to a computer program product carrying instructions for performing the process of claim 9 and is rejected along the same rationale.

As to claim 25, is directed to a computer program product carrying instructions for performing the process of claim 10 and is rejected along the same rationale.

As to claim 26, is directed to a computer program product carrying instructions for performing the process of claim 11 and is rejected along the same rationale.

As to claim 27, is directed to a computer program product carrying instructions for performing the process of claim 12 and is rejected along the same rationale.

As to claim 28, is directed to a computer program product carrying instructions for performing the process of claim 13 and is rejected along the same rationale.

As to claim 29, is directed to a computer program product carrying instructions for performing the process of claim 14 and is rejected along the same rationale.

As to claim 30, is directed to a computer program product carrying instructions for performing the process of claim 15 and is rejected along the same rationale.

As to claim 31, is directed to a computer program product carrying instructions for performing the process of claim 16 and is rejected along the same rationale.

As to claim 32, Li discloses a program product operable on a computer, the program product comprising: a computer-usable medium (Figure 1a); wherein the computer usable medium contains instructions to cause a computer, responsive to a user entry of a plurality of fields, a filter, and a sort criteria (Figure 2b, column 3, lines 14-24), to automatically identify a set of necessary tables in the database that are required to respond to the user entry and to automatically generate a query having (Figure 2b, item 240, column 5, lines 45-60, column 9, lines 17-55, column 10, lines 40-51) and to generate a query having a clause linked to the set of necessary tables (From Clause with tables determined based on chosen columns, Figures 3a, 8, column 3, lines 31-33, column 9, lines 52-55) so that the query only accesses necessary table in the database (tables specified in From Clause, column 9, lines 52-55, column 12, lines 63-65, column 13, lines 14-23), the instructions comprising:

- a query program, wherein the query program queries a database using a query (execute action, Figure 14, items 1410-1416, column 22, lines 28-33);

- a query generation program, wherein the query generation program generates a query having only the necessary joins for the query (Figures 2b, 8, Figure 13a/b/c); and

- a clause generation program, wherein the clause generation program determines which clauses are necessary in the query (Figure 8, Figures 13a/b/c).

Li does not explicitly disclose preventing unnecessary table joins.

Koo discloses preventing unnecessary table joins (paragraph [0002], [0030], [0044], [0049]-[0057], redundant join elimination and sub-query elimination using subsumption).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify Li's disclosure to eliminate a redundant join as taught by Koo for the purpose of preventing execution of unnecessary joins (abstract, Koo). The skilled artisan would have been motivated to improve the invention of Li per the above by generating alternate plans and choosing a best plan based on estimated execution costs (paragraph [0005], Koo).

As to claim 33, claim 33 is essentially the same as claim 10 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

As to claim 34, claim 34 is essentially the same as claim 14 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

As to claim 35, claim 35 is essentially the same as claim 15 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

As to claim 36, claim 36 is essentially the same as claim 11 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

As to claim 37, claim 37 is essentially the same as claim 12 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

As to claim 38, claim 38 is essentially the same as claim 13 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

As to claim 39, claim 39 is essentially the same as claim 16 except that it sets forth the claimed invention as a computer program product rather than a method and is rejected under the same rationale.

Response to Amendment and Remarks

Applicant's amendments and remarks have been fully and carefully considered.

Regarding to Applicant's argument about prior art references (ICST and Evans), the Examiner would like to point out that Li et al. (US Patent 5,418,950) was used as prior art in the last office action. Arguments regarding to ICST and/or Evans are irrelevant and moot.

Related Prior Arts

The following list of prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Fenlon, Peter et al., US 20030093374 A1, "Internet-connected devices".
- Berno; Anthony J., US 6694321 B1, "System, method, and product for development and maintenance of database-related software applications".

- Madan; Harpinder S. et al., US 6748374 B1, "Method for generating a relational database query statement using one or more templates corresponding to search conditions in an expression tree".
- Anonsen; Steven P. et al., US 7162469 B2, "Querying an object for properties".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The examiner can normally be reached on 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2166

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166